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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,787	01/11/2005	Kenichi Miyoshi	L9289.04193	2438

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EXAMINER
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MIAH, LITON

ART UNIT	PAPER NUMBER
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2617

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04/29/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/520,787	<b>Applicant(s)</b> MIYOSHI ET AL.	
	<b>Examiner</b> LITON MIAH	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 20-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office Action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 27, 2010 has been entered. **Claims 20-35** are now pending in the present application.

### ***Response to Arguments***

2. Applicant's arguments, filed on January 27, 2010, with respect to **claims 20, 30, 34, and 35** have been considered but are moot in view of the new ground(s) of rejections.

### ***Claim Objections***

3. Claim 29 is objected under 37 C.F.R. 1.75 because of the following informalities:

For claim 29, it is unclear whether claim 29 is independent or dependent. If it is intended to be dependent then it is suggested to move the phrase "according to claim 20" from body of the claim to the preamble of the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 20-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khan (US 2004/0203973), hereinafter 'Khan 04' in view of Khan (US 2002/0064167), hereinafter 'Khan 02'.

**For claim 20, Khan 04** discloses a radio receiving apparatus using an automatic repeat request (ARQ) comprising:

a receiver configured to receive data from a radio transmitting apparatus (**Abstract; paragraph 0009 and 0014**); an error detector configured to perform an error detection

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for the data (**Abstract; paragraph 0007, 0009 and 0014**); and a transmitter configured to transmit, to the radio transmitting apparatus (**Abstract; paragraph 0009 and 0014**), an acknowledgment/negative-acknowledgment (ACK/NACK) signal based on a result of the error detection, and to transmit, to the radio transmitting apparatus, a control signal (**Abstract; paragraph 0009 and 0014**),

said control signal, pairing with the ACK/NACK signal, for governing operations including a new transmission and no transmission performed in the radio transmitting apparatus (**Abstract; paragraph 0009, 0014, 0017, 0018 and 0020**).

As to **claim 20**, Khan 04 discloses all of the limitations of claim 20 as described above.

**Khan 04** fails to explicitly disclose that the operation of the retransmission data. In the same field of endeavor, **Khan 02** discloses an ACK/NACK signal and control signal that govern the operation of the retransmission of data (**See at least abstract; paragraph 0016, 0035-0037 and 0041**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both Khan reference to efficiently utilize channel resources while allowing for scheduling flexibility.

As to **claim 21**, Khan 04 and Khan 02 discloses all of the limitations of claim 20 as described above, which claim 21 depends. **Khan 04** further discloses the control signal is for governing the operation that the radio transmitting apparatus resumes a transmission after performing no transmission (**Abstract; paragraph 0009, 0014, 0018 and 0021**).

As to **claim 22**, Khan 04 and Khan 02 discloses all of the limitations of claim 20 as described above, which claim 22 depends. **Khan 04** further discloses the control

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signal is for governing the operations that the radio transmitting apparatus performs no transmission and keeps data in a buffer **(Abstract; paragraph 0009, 0014, 0018 and 0023)**.

As to **claim 23**, Khan 04 and Khan 02 discloses all of the limitations of claim 20 as described above, which claim 23 depends. **Khan 04** further discloses said control signal is for governing the operations that the radio transmitting apparatus suspends a transmission and performs no transmission **(Abstract; paragraph 0009, 0014, 0018 and 0021)**.

As to **claim 24**, Khan 04 and Khan 02 discloses all of the limitations of claim 20 as described above, which claim 24 depends. **Khan 04** further discloses the control signal is a suspend signal, said suspend signal the governing the operations that the radio transmitting apparatus suspends a transmission and performs no transmission, or a resume signal, said resume signal for governing the operation that the radio transmitting apparatus resumes a transmission after performing no transmission **(Abstract; paragraph 0009, 0014, 0018, 0021 and 0023)**.

As to **claim 25**, Khan 04 and Khan 02 discloses all of the limitations of claim 20 as described above, which claim 25 depends. **Khan 04** further discloses a channel quality measurer configured to measure a channel quality between the radio transmitting apparatus and the radio receiving apparatus, wherein the transmitter transmits the control signal based on the channel quality **(Abstract; paragraph 0007, 0009, 0014, 0015 and 0019; In Khan, the user equipment (UE) transmits the Channel Quality Indicator (CQI) information to the base station, whereby the**

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**channel quality information is the information that describes the quality of a communication channel between the UE and the base station).**

As to **claim 26**, Khan 04 and Khan 02 discloses all of the limitations of claim 25 as described above, which claim 26 depends. **Khan 04** further discloses said control signal is for governing the operations that the radio transmitting apparatus performs no transmission and keeps data in a buffer when the channel quality is equal to or less than a threshold **(Abstract; paragraph 0007, 0009, 0014, 0015 and 0019)**.

As to **claim 27**, Khan 04 and Khan 02 discloses all of the limitations of claim 25 as described above, which claim 27 depends. **Khan 04** further discloses said control signal is for governing the operations that the radio transmitting apparatus performs no transmission and keeps data in a buffer when the channel quality is equal to or less than a threshold, and said control signal is for governing the operation that the radio transmitting apparatus resumes a transmission after performing no transmission when the channel quality become greater than the threshold **(Abstract; paragraph 0007, 0009, 0014, 0015 and 0019)**.

As to **claim 28**, Khan 04 and Khan 02 discloses all of the limitations of claim 25 as described above, which claim 28 depends. **Khan 04** further discloses the radio receiving apparatus performs:

- (i) transmitting an ACK signal when said error detector detects no error for the data **(Abstract; paragraph 0009, 0014 and 0018)**;
- (ii) transmitting a NACK signal when said error detector detects an error for the data and the channel quality is greater than a threshold **(Abstract; paragraph 0007, 0009, 0014,**

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**0015 and 0019);**

(iii) transmitting the control signal for governing the operations that the radio transmitting apparatus performs no transmission and keeps data in a buffer when said error detector detects an error for the data and the channel quality is equal to or less than the threshold **(Abstract; paragraph 0007, 0009, 0014, 0015 and 0019)**; and

(iv) transmitting the control signal for governing the operation that the radio transmitting apparatus resumes a transmission after performing no transmission when the channel quality become greater than the threshold **(Abstract; paragraph 0007, 0009, 0014, 0015 and 0023)**.

As to **claim 29**, Khan 04 discloses all of the limitations of claim 20 as described above. **Khan 04** further discloses a radio transmitting apparatus using an automatic repeat request (ARQ) comprising;  
a receiver configured to receive an acknowledgment/negative-acknowledgment (ACK/NACK) signal, and a control signal, which are transmitted from the radio receiving apparatus according to claim 20 **(Abstract; paragraph 0009, 0014, 0017, 0018 and 0020)**; and  
a transmitter configured to transmit data, based on the ACK,ACK signal and the control signal **(Abstract; paragraph 0009, 0014 and 0018)**.

**For claim 30**, Khan 04 discloses radio transmitting apparatus using an automatic repeat request (ARQ) comprising:  
a transmitter configured to perform, operations, including a new transmission and no transmission of data to a radio receiving apparatus **(Abstract; paragraph 0009, 0014,**



**0017, 0018 and 0020);** and

a receiver configured to receive an acknowledgment/negative-acknowledgment (ACK~NACK) signal **(Abstract; paragraph 0009 and 0014)**, which is transmitted based on a result of an error detection for the data in the radio receiving apparatus, and a control signal which is transmitted from the radio receiving apparatus **(Abstract; paragraph 0009, 0014, 0017, 0018 and 0020);**

wherein the operations are governed based on the ACK~NACK signal and the control signal **(Abstract; paragraph 0009, 0014 and 0018)**.

As to **claim 30**, Khan 04 discloses all of the limitations of claim 30 as described above. **Khan 04** fails to explicitly disclose that the operation of the retransmission data. In the same field of endeavor, **Khan 02** discloses an ACK/NACK signal and control signal that govern the operation of the retransmission of data **(See at least abstract; paragraph 0016, 0035-0037 and 0041)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both Khan reference to efficiently utilize channel resources while allowing for scheduling flexibility.

As to **claim 31**, Khan 04 and Khan 02 discloses all of the limitations of claim 30 as described above, which claim 31 depends. **Khan 04** further discloses said transmitter resumes a transmission after performing no transmission based on the control signal **(Abstract; paragraph 0009, 0014, 0018 and 0021)**.

As to **claim 32**, Khan 04 and Khan 02 discloses all of the limitations of claim 30 as described above, which claim 32 depends. **Khan 04** further discloses said transmitter performs no transmission and keeps data in a buffer based on the control

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signal (**Abstract; paragraph 0009, 0014, 0018 and 0023**).

As to **claim 33**, Khan 04 and Khan 02 discloses all of the limitations of claim 30 as described above, which claim 33 depends. **Khan 04** further discloses said transmitter suspends a transmission and performs no transmission based on the control signal (**Abstract; paragraph 0009, 0014, 0018 and 0021**).

**For claim 34**, Khan 04 discloses a radio receiving method using an automatic repeat request (ARQ) comprising:  
receiving data from a radio transmitting apparatus (**Abstract; paragraph 0009 and 0014**); performing an error detection for the data (**Abstract; paragraph 0007, 0009 and 0014**);  
transmitting, to the radio transmitting apparatus (**Abstract; paragraph 0009 and 0014**), an acknowledgment/negative-acknowledgment (ACK/NACK) signal based on a result of the error detection; and transmitting, to the radio transmitting apparatus, a control signal (**Abstract; paragraph 0009 and 0014**), said control signal, pairing with the ACK/NACK signal, for governing operations including a new transmission and no transmission performed in the radio transmitting apparatus (**Abstract; paragraph 0009, 0014, 0017, 0018 and 0020**).

As to **claim 34**, Khan 04 discloses all of the limitations of claim 34 as described above. **Khan 04** fails to explicitly disclose that the operation of the retransmission data. In the same field of endeavor, **Khan 02** discloses an ACK/NACK signal and control signal that govern the operation of the retransmission of data (**See at least abstract; paragraph 0016, 0035-0037 and 0041**). Thus, it would have been obvious to one of

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ordinary skill in the art at the time of the invention to combine both Khan reference to efficiently utilize channel resources while allowing for scheduling flexibility.

**For claim 35, Khan 04** discloses a radio transmitting method using an automatic repeat request (ARQ) comprising:

performing operations, including a new transmission and no transmission of data to a radio receiving apparatus (**Abstract; paragraph 0009, 0014, 0017, 0018 and 0020**); receiving an acknowledgment/negative-acknowledgment (ACK/NACK) signal, which is transmitted based on a result of an error detection for the data in the radio receiving apparatus (**Abstract; paragraph 0007, 0009 and 0014**), and a control signal which is transmitted from the radio receiving apparatus (**Abstract; paragraph 0009 and 0014**); and

governing the operations based on the ACK/NACK signal and the control signal (**Abstract; paragraph 0009, 0014, 0017, 0018 and 0020**).

As to **claim 35**, Khan 04 discloses all of the limitations of claim 35 as described above. **Khan 04** fails to explicitly disclose that the operation of the retransmission data. In the same field of endeavor, **Khan 02** discloses an ACK/NACK signal and control signal that govern the operation of the retransmission of data (**See at least abstract; paragraph 0016, 0035-0037 and 0041**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both Khan reference to efficiently utilize channel resources while allowing for scheduling flexibility.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the

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examiner should be directed to LITON MIAH whose telephone number is (571)270-3124. The examiner can normally be reached on Monday through Friday 7:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571)272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LM

/Rafael Pérez-Gutiérrez/  
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